

/564PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Gunnar Wetzker et al.
	:	
For	:	RECEIVER FOR RECEIVING
	:	FREQUENCY SIGNALS USING
	:	DELTA-SIGMA MODULATORS
	:	
Serial No.	:	10/564,293
	:	
Filed	:	January 10, 2006
	:	
Art Unit	:	2611
	:	
Examiner	:	Eboni N. Giles
	:	
Atty. Docket	:	NL 030813
	:	
Confirmation No.	:	6995

PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Sir:

This Pre-Appeal Brief Request is in response to the Final Office Action dated June 5, 2009, and further to the Notice of Appeal filed concurrently herewith.

Claims 1-9 and 11 are pending in the present application, of which claims 1, 7, 8, and 9 are independent. Applicant hereby requests review of the rejections in the above-identified application in view of the concurrently-filed Notice of Appeal.

REJECTIONS UNDER 35 U.S.C. § 103(a)

On pages 2-6, the Office Action rejects claims 1, 2, and 5-9 under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent Application No. 2004/0057534 to Masenten et al (hereinafter "Masenten") in view of U.S. Patent Application No. 2004/0210801 to Prasad et al (hereinafter "Prasad"). On page 6, the Office Action rejects claim 3 under 35 U.S.C. § 103(a) as allegedly unpatentable over Masenten in view of Prasad, further in view of U.S. Patent No. 7,194,036 to Melanson (hereinafter "Melanson"). On pages 6 and 7, the Office Action rejects claim 4 under 35 U.S.C. § 103(a) as allegedly unpatentable over Masenten in view of Prasad, further in view of U.S. Patent No. 7,130,327 to Robinson et al (hereinafter "Robinson"). On pages 7 and 8, the Office Action rejects claim 11 under 35 U.S.C. § 103(a) as allegedly unpatentable over Masenten in view of Prasad, further in view of U.S. Patent No. 6,225,928 to Green (hereinafter "Green"). Applicant respectfully traverses these rejections for the reasons detailed below.

Independent claim 1 recites the limitation: "wherein the filtering stage further comprises a decimator receiving a feedback signal from a time-control loop having a loop quantizer and a loop filter" (emphasis added). This subject matter finds support, for example, in paragraph [0054] of the published version of the specification. Independent claims 7-9 contain similar recitations. Applicant respectfully submits that none of the references of record, alone or in combination, disclose, teach, or suggest this subject matter.

On page 3, the Office Action correctly concedes that Masenten does not expressly disclose this subject matter. The Office Action then attempts to remedy this admitted deficiency by applying the teachings of Prasad. In particular, the Office Action alleges that Prasad has a $\Delta\Sigma$ ADC. However, the Office Action fails to address the recited time-control loop having a loop quantizer and a loop filter.

During a telephonic interview on June 9, 2009, Applicant requested further clarification of this rejection, noting that the Office Action fails to identify a loop quantizer and a loop filter in Prasad. In response, Examiner Giles insisted that this subject matter was generally present in Prasad, but did not describe any parts of Prasad as providing a specific teaching of these features. Applicant respectfully submits the Examiner's allegation fails to present the "articulated reasoning" needed for a *prima facie* case of obviousness, particularly as Prasad teaches away from the claimed subject matter. While Prasad does have a digital decimation filter [107], Prasad does not have a feedback loop from a detector going back to the decimator through a loop filter and a quantizer, as recited in independent claims 1-9. Thus, Prasad teaches away from the claimed subject matter, having the decimation filter [107] feed forward its signal to a LPF [108].

For the reasons listed above, Applicant respectfully submits that independent claims 1, 7, 8, and 9 are allowable. Claims 2-6 and 11 depend from independent claim 1. Thus, Applicant respectfully submits that claims 2-6 and 11 are also allowable at least by virtue of their respective dependencies upon allowable claims.

Dependent claim 11 recites, in part, that the loop filter comprises “an adder that combines an input signal with a feedback signal, thereby producing a sum; an inverse z block that receives the sum and produces the feedback signal; and a gain block that processes the feedback signal to produce an output signal that is sent to the loop quantizer” (emphasis added). This subject matter finds support in the specification, for example, in paragraph [0055]. Applicant respectfully submits that the references of record, alone or in combination, fail to disclose, suggest, or teach this subject matter.

On page 8, the Office Action correctly concedes that Masenten and Prasad do not expressly disclose an adder, an inverse z block, or a gain block. The Office Action then attempts to remedy the deficiencies of Masenten in view of Prasad by applying the teachings of Green. However, the Office Action fails to identify any parts in Green as equivalent to the claimed subject matter.

During the telephonic interview on June 9, 2009, Applicant also requested further clarification of this rejection. Examiner Giles admitted that the Office Action referred to Fig. 3 in Green, but indicated that she now wished to rely upon a combination of Fig. 3 and Fig. 6. In particular, Examiner Giles alleged that Fig. 6 has two inverse z blocks [602, 616] and adders [604, 610].

Applicant respectfully submits that even a combination of Figs. 3 and 6 in Green would still fail to present a *prima facie* case of obviousness. The subject matter of claim 11 refers to a feedback loop containing an inverse z block that sends

its signal into a gain block. Fig. 6 of Green teaches away from this subject matter by having the signal sent into a "-1 coefficient block" [618]. Applicant respectfully submits that the -1 coefficient block is clearly not a gain block because it would attenuate signals instead of amplifying them. Moreover, the Office Action does not provide any articulated reasoning for combining any of the gain blocks [304/308: Fig. 3] with the inverse z blocks [602/616: Fig. 6]. Thus, the Office Action fails to present a *prima facie* case of obviousness for claim 11.

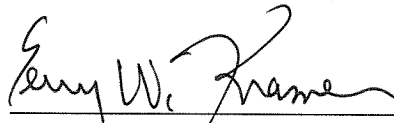
For the reasons detailed above, Applicant respectfully requests that the rejection of claims 1-9 and 11 under 35 U.S.C. § 103(a) be withdrawn.

In the event that the fees submitted prove to be insufficient in connection with the filing of this paper, please charge our Deposit Account Number 50-0578 and please credit any excess fees to such Deposit Account.

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Respectfully submitted,
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